

HARRIMAN

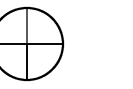
AUBURN PORTLAND PORTSMOUTH BOSTON

**DOVER SCHOOL DISTRICT
ALTERNATIVE SCHOOL
VESTIBULE SECURITY
RENOVATION**

DOVER, NEW HAMPSHIRE

Harriman Project No. 18359

Key Plan Proj North



DIVISION 26 - ELECTRICAL

PART 1 - GENERAL

- 1.1 SECTION INCLUDES
 - A. BASIC ELECTRICAL REQUIREMENTS
 - B. INTENT IS TO PROVIDE AND INSTALL ALL MATERIALS & LABOR TO IMPLEMENT THE DESIGN AS INTENDED FOR A COMPLETE WORKING ELECTRICAL SYSTEMS, AS REQUIRED TO ACCOMMODATE THE ALTERATIONS.
- 1.2 PERFORMANCE REQUIREMENTS
 - A. CONFORM TO REQUIREMENTS OF THE STATE ADOPTED EDITION OF ANS/NFPA 70 NATIONAL ELECTRICAL CODE (N.E.C.) AND ALL STATE/LOCAL REQUIREMENTS.
 - B. CONFORM TO REQUIREMENTS OF ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS AND THE FIRE UNDERWRITERS' REQUIREMENTS.
 - C. FURNISH PRODUCTS LISTED AND CLASSIFIED BY UNDERWRITERS' LABORATORIES, INC. (U.L.) AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN.
 - D. SECURE AND PAY FOR ALL PERMITS AND CERTIFICATES AS REQUIRED BY LOCAL, STATE AND FEDERAL LAWS.
 - E. REQUEST INSPECTIONS FROM AUTHORITY HAVING JURISDICTION.
 - F. CIRCUITS SHALL BE BALANCED AND LOADS AND CAPACITIES SHALL BE IN ACCORDANCE WITH N.E.C. CRITERIA AND NATIONAL BOARD OF FIRE UNDERWRITERS.
 - G. EXACT LOCATIONS OF ALL EQUIPMENT SHALL BE VERIFIED AT THE SITE, WITH THE OWNER AND ARCHITECT.
- 1.3 SEQUENCING AND SCHEDULING
 - A. SCHEDULE AND COORDINATE ALL WORK WITH THE CONSTRUCTION MANAGER AND THE OWNER.
 - B. ARRANGE TO EXECUTE THE WORK AT SUCH TIMES AND IN SUCH LOCATIONS AS MAY BE REQUIRED TO PROVIDE UNINTERRUPTED SERVICES FOR THE BUILDING, OR ANY OF ITS SECTIONS.
 - 1. SERVICES INCLUDE BUT NOT LIMITED TO: POWER, LIGHTING, AND LIFE SAFETY SYSTEMS AS REQUIRED TO MAINTAIN SAFE OCCUPANCY
 - 2. COSTS FOR OVERTIME WORK AND TEMPORARY WORK SHALL BE INCLUDED IN THE BID.
 - C. ALL EXISTING WIRING THAT IS DISCONNECTED SHALL BE COMPLETELY REMOVED TO SOURCE. ALL EXISTING WIRING THAT IS DISTURBED BUT INTENDED TO REMAIN, SHALL BE REFEED AND RECONNECTED AS REQUIRED.
 - D. ALL ELECTRICAL ITEMS REMOVED AND NOT REUSED SHALL BE RETURNED TO THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL MATERIALS.
 - E. VERIFY THAT ELECTRICAL WORK DOES NOT AFFECT EXISTING POWER & SYSTEMS. PROVIDE CONNECTIONS OR REFEED AS REQUIRED TO RESTORE POWER & SYSTEMS.
- 1.4 SUBMITTALS
 - A. SUBMIT SHOP DRAWINGS, OWNER'S MANUALS, AND OPERATING INSTRUCTIONS, INCLUDE THE FOLLOWING:
 - 1. FIRE ALARM SYSTEM DEVICES AND DOCUMENTATION OF MANUFACTURER'S AUTHORIZED INSTALLER AND TESTING REPORT.
 - 2. LIGHTING FIXTURES.
 - 3. ELECTRICAL DEVICES AND PLATES.
- 1.5 RECORD DRAWINGS
 - A. KEEP A MARKED SET OF DRAWINGS AT THE SITE AS A RECORD SET INDICATING ALL REVISIONS IN THE WORK AS THE WORK PROGRESSES. AT THE COMPLETION OF THE WORK, MARK THE DRAWINGS "AS-BUILT DRAWINGS" WITH THE CONTRACTOR'S NAME AND DATE, AND DELIVER TO THE ARCHITECT.

PART 2 - PRODUCTS

- 2.1 DEVICES
 - A. RECEPTACLES SHALL BE NEMA 5-20R UNLESS NOTED OTHERWISE. SWITCHES SHALL BE 277 VOLT RATED.
 - B. ALL DEVICES SHALL BE HEAVY-DUTY INDUSTRIAL SPECIFICATION GRADE, RECEPTACLES SHALL BE TAMPER RESISTANT (LEVITON 5362-SG, etc.).
- 2.2 0-10V DIMMER SWITCH
 - A. LEVITON: IPL06-10 OR APPROVED EQUAL.
- 2.2 WIRE AND CABLE
 - A. #12 AND #10 AWG WIRING SHALL BE SOILD COPPER, THWN/THHN, COLOR CODED AS INDICATED BELOW. ALL WIRING #8 AWG AND ABOVE SHALL BE STRANDED COPPER, THWN/THHN, COLOR CODED AS INDICATED BELOW, MINIMUM SIZE #12 AWG.
 - B. WIRE COLOR CODE SHALL BE AS FOLLOWS:

277/480V 120/208V	277/480V 120/208V	277/480V 120/208V
PHASE A BROWN	BLACK	NEUTRAL GREY
PHASE B ORANGE	RED	GROUND GREEN
PHASE C YELLOW	BLUE	WHITE
 - C. CONCEALED METAL CLAD CABLE SHALL BE ANS/NFPA 70 (N.E.C.), TYPE MC WITH SEPARATE INSULATED GROUND. CONDUCTORS SHALL BE COPPER MINIMUM #12 AND MAXIMUM #10 AWG.
 - D. WIRING FOR HEATING, VENTILATION, PLUMBING, & OWNERS EQUIPMENT SHALL INCLUDE FINAL BRANCH CIRCUIT CONNECTIONS TO DISCONNECT, MOTOR CONTROLLER AND MOTOR.
- 2.3 PANELBOARDS
 - A. MINIMUM INTEGRATED SHORT CIRCUIT RATING: MATCH EXISTING.
 - B. MOLDED CASE CIRCUIT BREAKERS: SHALL MATCH THE EXISTING CIRCUIT BREAKERS. BREAKERS SHALL BE TOGGLE TYPE THERMAL-MAGNETIC, QUICK-MAKE, QUICK-BREAK, WITH SILVER-PLATED CONTACTS, AND WITH COMMON TRIP FOR MULTIPOLE CIRCUITS. PROVIDE CIRCUIT BREAKERS UL LISTED AS TYPE SWD FOR SWITCHING LIGHTING CIRCUITS.
- 2.4 SYSTEMS
 - A. VOICE, DATA, VIDEO SYSTEMS WILL BE PROVIDED BY THE OWNER.
 - B. MINOR FIRE ALARM ALTERATIONS SHOWN ON THE DRAWINGS SHALL BE PROVIDED UNDER DIV.26. INCLUDE THE SERVICES OF A MANUFACTURERS AUTHORIZED INSTALLER VENDOR TO PROVIDE SYSTEM MODIFICATIONS, INCLUDING ALL REQUIRED PROGRAMMING AND TESTING.
- 2.5 SURFACE MOUNTED RACEWAYS
 - A. WIREMOLD: V700 SERIES
 - B. FITTINGS, BOXES AND EXTENSION RINGS, COUPLINGS, ELBOWS AND CONNECTORS: FURNISH MANUFACTURER'S STANDARD ACCESSORIES FOR A COMPLETE INSTALLATION.
 - C. FINISH: IVORY ENAMEL.

PART 3 - EXECUTION

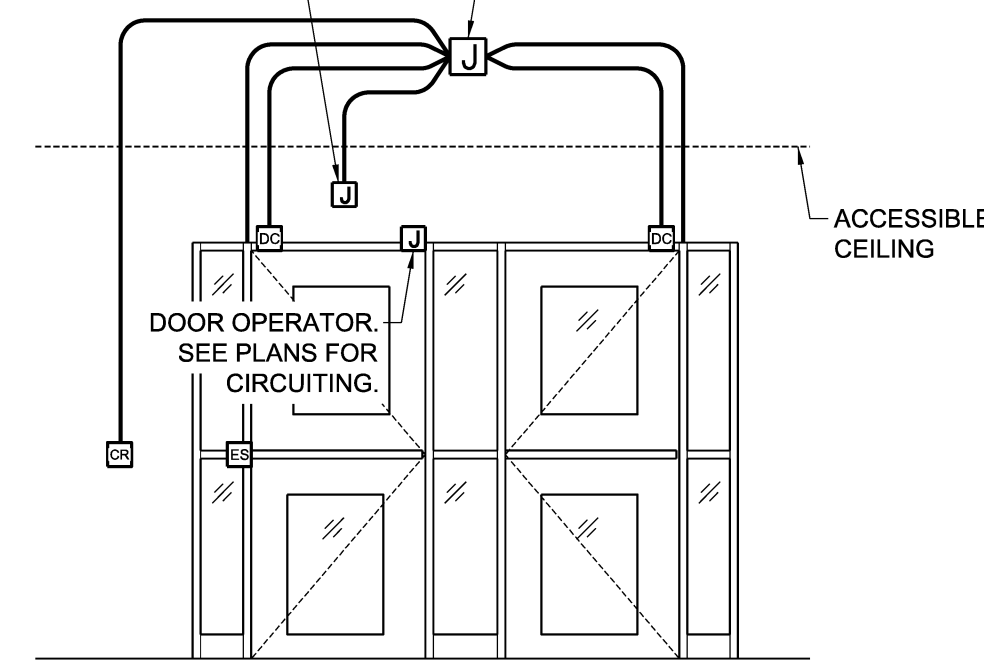
- 3.1 WORKMANSHIP AND INSTALLATION
 - A. EXECUTE ALL WORK IN A NEAT MANNER ACCEPTABLE TO THE LOCAL AND STATE ELECTRICAL INSPECTOR. FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
 - B. PERFORM ALL ELECTRICAL WORK BY LICENSED ELECTRICIANS WELL SKILLED IN THE TRADE AND SUPERVISED BY A MASTER ELECTRICIAN.
- 3.2 INSTALLATION
 - A. EACH PANEL SHALL HAVE NEW TYPED DIRECTORY SCHEDULE IDENTIFYING TYPE OF LOAD AND AREA SERVED.
 - B. PROVIDE AND INSTALL BONDING CONDUCTOR TO EACH ELECTRICAL ITEM AND OTHERS AS INDICATED.
 - C. ALL OUTLET AND SWITCH FACEPLATES SHALL BE SMOOTH NYLON.
 - D. ALL WIRING SHALL BE CONCEALED WHERE POSSIBLE. IN EXPOSED COPNSTRUCTION RUN CONDUIT PARALLEL TO STRUCTURE AND PAINT TO MATCH. PROVIDE SURFACE MOUNTED RACEWAYS IN EXISTING CONCRETE WALLS.
 - E. ALL WIRES SHALL BE RUN IN CONDUIT OR DUCT SYSTEM WITH BOTH ENDS TAGGED, MINIMUM CONDUIT SIZE SHALL BE 1/2" UNLESS INDICATED OTHERWISE. CONCEALED BRANCH CIRCUITS #12 AWG AND #10 AWG MAY BE MC CABLE.
 - F. MAKE WIRING CONNECTIONS IN WIRING COMPARTMENT OF PREWIRED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - G. ALL PENETRATIONS THROUGH WALLS SHALL BE SEALED. FIRE STOP SEALANTS SHALL BE USED TO MEET RATINGS OF WALLS BEING PENETRATED.
 - H. OUTLET BOXES FOR ALL CONCEALED WORK SHALL BE MINIMUM 4" SQUARE, WITH RAISED COVERS AS REQUIRED TO EXTEND FLUSH TO FINISHED SURFACE.
 - I. PROVIDE DISCONNECT SWITCHES AS INDICATED OR REQUIRED BY CODE.
 - J. BONDING CONDUCTORS SHALL BE CONTINUOUS WHERE POSSIBLE. WHERE SPLICES ARE REQUIRED, PROVIDE T & B, OR APPROVED EQUAL COMPRESSION CONNECTORS OF APPROVED PATTERN. INSULATE CONNECTORS TO EQUIVALENT THICKNESS OF CONDUCTORS. ALL CONDUITS AND MC CABLE SHALL BE PROPERLY SUPPORTED PER CODE REQUIREMENTS. WIRING SHALL NOT BE RUN DIAGONALLY AND SHALL BE CABLED NEATLY.
- 3.3 TESTING AND ADJUSTING
 - A. THE INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. TEST IN THE PRESENCE OF THE ARCHITECTS OR THEIR REPRESENTATIVES.
 - B. TEST ALL LIGHTING AND OUTLETS FOR PROPER OPERATION, INCLUDING ADJACENT SPACES TO ASSURE THAT THEY WHERE NOT AFFECTED BY THE RENOVATIONS.
 - C. TEST EACH SYSTEMS FOR PROPER OPERATION AND MAKE ADJUSTMENTS AS REQUIRED TO SATISFY THE CONSTRUCTION MANAGER AND THE OWNER.

ELECTRICAL LEGEND

- LP-1,3 ←←←←← HOMERUN TO PANELBOARD - ARROWS INDICATE NUMBER OF CIRCUITS. CROSS LINES INDICATE NUMBER OF CONDUCTORS OTHER THAN TWO (PROVIDE NUMBER OF WIRES REQUIRED TO ALLOW SWITCHING SHOWN - E10 SERIES LIGHTING DRAWINGS).
- ┌┐ CIRCUIT NUMBER(S)
- PANEL DESIGNATION
- WIRING CONCEALED IN WALL OR CEILING
- 2x4' RECESSED LIGHTING FIXTURE - SEE LIGHTING FIXTURE SCHEDULE
- RECESSED DOWNLIGHT - SEE LIGHTING FIXTURE SCHEDULE
- Ⓢ SINGLE POLE SWITCH - MOUNT C/L UP 48" UNLESS NOTED OTHERWISE
- Ⓢ TAMPER RESISTANT DUPLEX CONVENIENCE RECEPTACLE - MOUNT C/L UP 24" UNLESS NOTED OTHERWISE ON PLANS OR IN CLASSROOM RECEPTACLE MOUNTING HEIGHT TABLE BELOW - "A" INDICATES MOUNT C/L UP 6" ABOVE COUNTER BACKSPLASH / C/L 48" WHERE NOT LOCATED AT A COUNTER
- Ⓢ PROVISIONS FOR ACCESS CONTROL CARD READER - MOUNT C/L UP 48"
- Ⓢ PROVISIONS FOR ACCESS CONTROL/INTRUSION DETECTION SYSTEM MAGNETIC DOOR SWITCH - SEE PROVISIONS FOR ACCESS CONTROL DETAIL
- Ⓢ INTRUSION DETECTION SYSTEM MOTION SENSOR
- Ⓢ JUNCTION BOX
- Ⓢ PANELBOARD
- Ⓢ FIRE ALARM CONTROL PANEL
- Ⓢ FIRE ALARM MANUAL PULL STATION - MOUNT C/L UP 48"
- Ⓢ FIRE ALARM HORN / LIGHT UNIT - CANDLE POWER (CD) PER NFPA 72 AND AS NOTED - 15/75 WHERE NOT OTHERWISE INDICATED ON PLANS - MOUNT C/L UP 94" ON WALL
- Ⓢ FIRE ALARM SMOKE DETECTOR - CEILING MOUNTED - DO NOT LOCATE WITHIN 5 FEET OF A MECHANICAL DIFFUSER OR GRILLE
- Ⓢ EXIT SIGN WITH ARROWS AS INDICATED OR HATCH INDICATES FACE - CEILING MOUNTED - SEE DETAIL
- Ⓢ EXIT SIGN WITH ARROWS AS INDICATED OR HATCH INDICATES FACE - WALL MOUNT ABOVE DOOR - SEE DETAIL
- Ⓢ EMERGENCY BATTERY UNIT

5 LEGEND
SCALE: NO SCALE

LOCATE BOX C/L UP 6" ABOVE DOOR FRAME FOR REQUEST TO EXIT DEVICE. LOCATE ON SECURE SIDE OF DOOR ABOVE AN ACCESSIBLE CEILING.

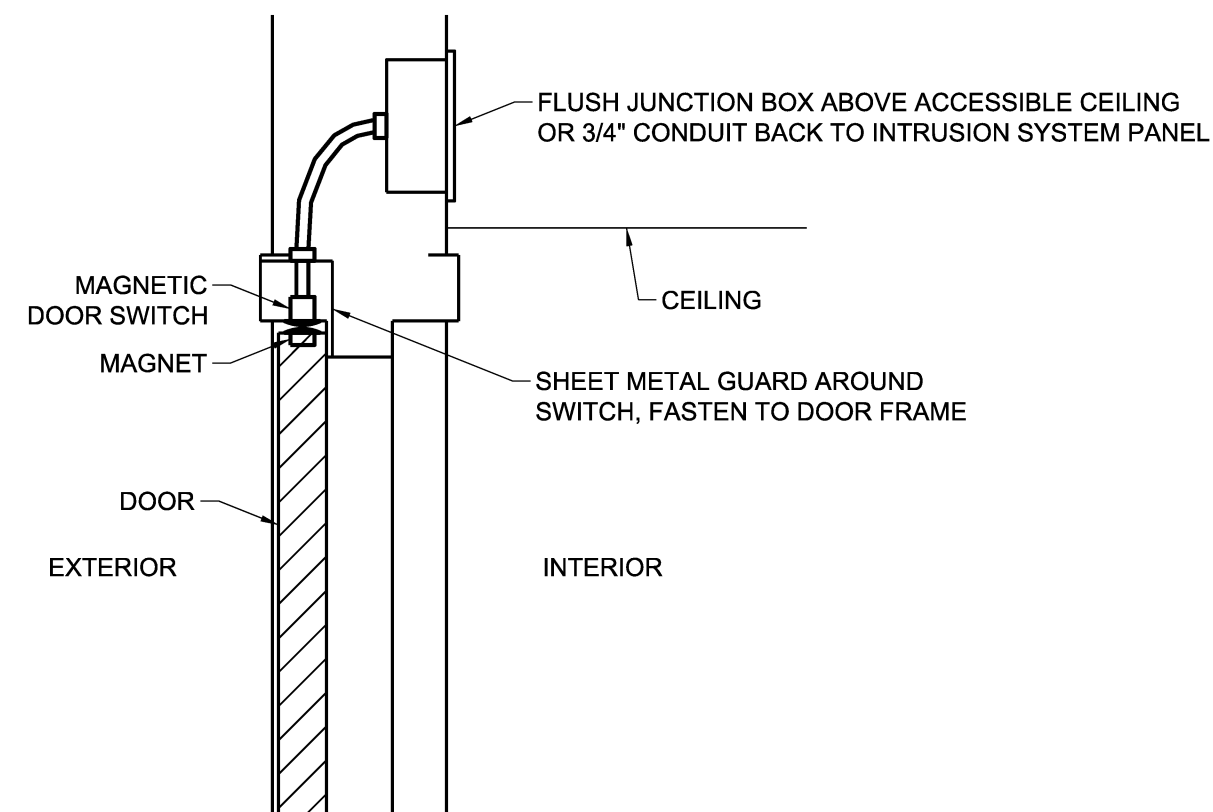


NOTES:
1. ALL PATHWAYS SHALL BE 3/4" / V700 SERIES WIREMOLD.

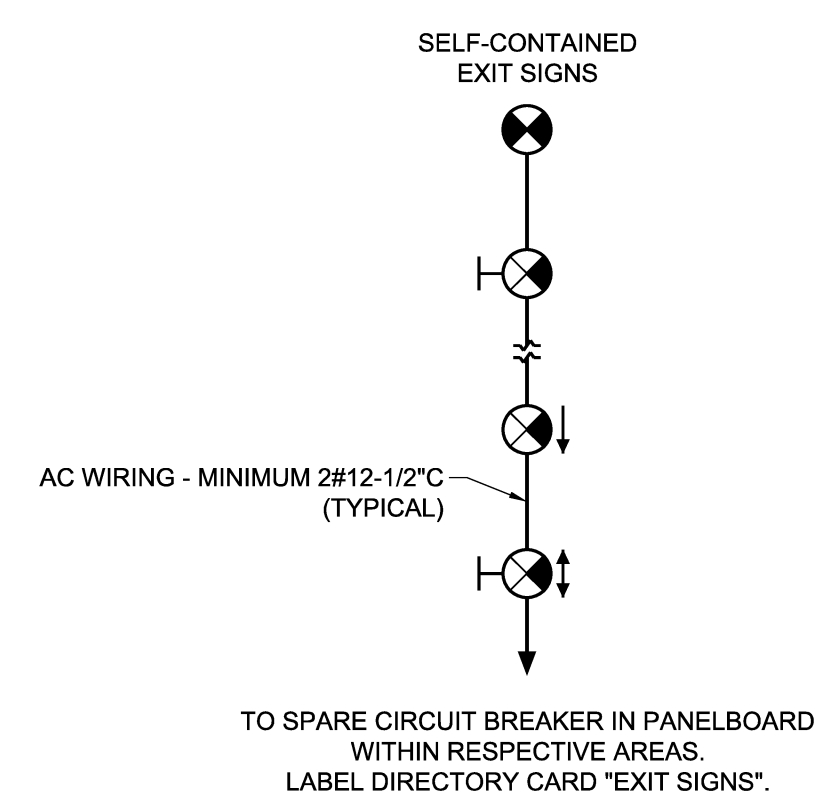
INNER VESTIBULE DOORS

2 PROVISIONS FOR ACCESS CONTROL DETAIL
SCALE: NO SCALE

6 NOT USED
SCALE: NO SCALE

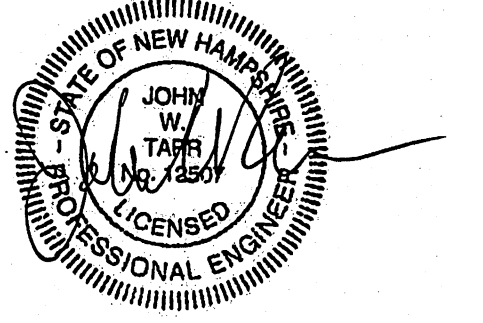


4 TYPICAL DOOR WITH MAGNETIC DOOR SWITCH
SCALE: NO SCALE



1 EXIT SIGN WIRING
SCALE: NO SCALE

Issues and Revisions	
Date	Description
06-07-18	CONSTRUCTION DOCUMENTS



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**LEGEND, DETAILS
AND
SPECIFICATION**

E00.1